

Application No.: 09/520,004

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**AMENDMENTS TO THE CLAIMS****Claim 1 (canceled)**

**Claim 2 (Previously presented):** An improved process for controlling micro-organisms in an aqueous process medium comprising adding a hop acid, characterized in, that the process comprises:

- (a) dissolving the hop acid in an aqueous alkaline medium to form an aqueous alkaline hop acid solution; and
- (b) continuously adding an effective amount of the aqueous hop acid solution, pre fermentation, to the aqueous process medium, wherein the pH of the aqueous hop acid solution is higher than the pH of the process medium and wherein the hop acid is in free acid form.

**Claim 3 (Currently amended):** A process according to claim 2, wherein the aqueous alkaline hop acid solution contains from substantially about 2 to substantially about 4019 wt. % of hop acid.

**Claim 4 (Currently amended):** A process according to claim 2, wherein the pH of the aqueous alkaline hop acid solution ranges from substantially about 7.5 to substantially about 13.0.

**Claim 5 (Previously presented):** A process according to claim 2, wherein the hop acid is a natural hop acid or derivative thereof; an isomerized hop acid or derivative thereof; or mixtures thereof.

**Claim 6 (original):** A process according to claim 5, wherein the natural hop acid or derivative thereof is alpha acid, beta acid, tetrahydroalpha acid, hexahydrobeta acid, or mixtures thereof.

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**Claim 7 (original):** A process according to claim 5, wherein the isomerized hop acid or derivative thereof is isoalpha acid, rhoisoalpha acid, hexahydroisoalpha acid, or mixtures thereof.

**Claim 8 (Currently amended):** A process according to claim 2, wherein the alkaline medium comprises from substantially about 1 to substantially about 5 [[4]] wt. % of potassium hydroxide, sodium hydroxide or mixtures of potassium hydroxide and sodium hydroxide.

**Claim 9 (Previously presented):** A process according to claim 2, wherein the temperature of the process medium is lower than 100° C.

**Claim 10 (Currently amended):** A process according to claim 2, wherein the concentrations of the hop acid within the process medium is in the range of 0.1 - 3.550 ppm.

**Claim 11 (Previously presented):** A process according to claim 2, wherein the process medium is a process medium in a yeast production process.

**Claim 12 (Previously presented):** A process according to claim 2, wherein the aqueous alkaline solution of hop acid is prepared according to the following process:

- a. heating an aqueous medium;
- b. adding a hop acid to the heated aqueous medium wherein the final concentration of the hop acid is within a predefined range of concentration;
- c. adding an alkaline medium to obtain a pre-defined pH;
- d. mixing the alkaline medium with the hop acid aqueous medium;
- e. keeping the mixture in a raised temperature range within a pre-defined time period;
- f. separating the solution of hop acid from the mixture; and
- g. cooling the solution of hop acid to a temperature below about 20° C.

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Claim 13 (original): A process according to claim 12, wherein the solution of hop acid is cooled to a temperature below 10° C.

Claim 14 (Previously presented): An improved process for controlling the bacterial growth in a distillery comprising a yeast growing tank and a fermentor tank containing a fermentable solution, the improvement comprising adding to the yeast and fermentor streams of the distillery prior to entering the fermentor and yeast growing tank, an effective antibacterial amount of an isoalpha acid or derivative thereof.

Claim 15 (original): A process according to claim 14 wherein, the isomerized hop acid or derivative thereof is isoalpha acid, rhoisoalpha acid, tetrahydroisoalpha acid, hexahydroisoalpha acid, or mixtures thereof.

Claim 16 (original): A process according to claim 14 wherein, the fermentable solution is stored as a concentrate and the isomerized hop acid is dosed into the yeast or fermentor feed streams immediately after dilution as an aqueous solution.

Claim 17 (original): A process according to claim 16 wherein, the pH of the aqueous solution comprising the isomerized hop acid is greater than the pH of the yeast or fermentor streams.

Claim 18 (Currently amended): A process according to claim 14 wherein, the concentration of isomerized hop acid or derivative thereof in the yeast and fermentor streams ranges from substantially about 1 to substantially about 20 ppm.

Claim 19 (Currently amended): A process according to claim 14 wherein, the concentration of isomerized hop acid or derivative thereof in the yeast and fermentor streams ranges from substantially about 2 to substantially about 4 ppm.

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Claim 20 (New) A process according to claim 14, wherein the addition occurs at a temperature of less than about 30° C.

Claim 21 (New): A process according to claim 2, whercin the temperature of the proccss medium is lower than 30° C.

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